Maintaining Healthcare Safety During the COVID-19 Pandemic - Speaker Series

September 2020


Access the recording here: https://attendee.gotowebinar.com/recording/2181053247045555472

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Access Dr. Prachand’s bio here:
https://www.uchicagomedicine.org/find-a-physician/physician/vivek-n-prachand

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Professor of Surgery
Chief Quality Officer, Department of Surgery
University of Chicago Medicine
“Elective” Surgery and COVID-19

- Need to balance response to COVID with providing ongoing care to non-COVID patients
- “Elective” ≠ “Optional:” Surgeon and patient elect whether/when surgery is to take place based on medical necessity, effectiveness, and consequences of delay; the need for surgical treatment of disease remains
- Decision to proceed with any operative treatment in the setting of the COVID-19 Pandemic requires incorporation of novel factors previously not overtly considered by surgeons
  - Dynamic resource limitations (testing, PPE, ICU beds, ventilators, personnel)
  - Risk of infection to the health care team and patient
  - COVID-19 specific perioperative risk (fulminant post-op respiratory failure in asymptomatic COVID+ patients)
MeNTS Scoring Process

- **Multispecialty** group created a tool that systematically integrates these factors to facilitate decision-making and triage for non-emergent but **Medically-Necessary, Time-Sensitive (MeNTS) Procedures**
  - 21 factors associated with poorer outcomes, increased COVID-19 risk to providers, and/or increased resource utilization were identified
    - Procedure
    - Disease
    - Patient

*Prachand et al JACS 2020*
<table>
<thead>
<tr>
<th>Procedure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR Time</td>
<td>&lt; 30 min</td>
<td>31-60 min</td>
<td>61-120 min</td>
<td>121-180 min</td>
<td>≥ 181 min</td>
</tr>
<tr>
<td>LOS Anticipated</td>
<td>Outpatient</td>
<td>23hrs</td>
<td>24-48 hrs</td>
<td>2- 3d</td>
<td>&gt; 4d</td>
</tr>
<tr>
<td>Post-Op ICU need</td>
<td>Very Unlikely</td>
<td>&lt; 5%</td>
<td>5-10%</td>
<td>11-25%</td>
<td>≥ 25%</td>
</tr>
<tr>
<td>Bleeding Risk/EBL</td>
<td>&lt; 100cc</td>
<td>101-250cc</td>
<td>251-500cc</td>
<td>501-750cc</td>
<td>≥ 750cc</td>
</tr>
<tr>
<td>Surgical Team Size</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>&gt; 4</td>
</tr>
<tr>
<td>Intubation Needed to Perform Procedure (Probability)</td>
<td>≤ 1%</td>
<td>1-5%</td>
<td>6-10%</td>
<td>11-25%</td>
<td>≥ 25%</td>
</tr>
<tr>
<td>Surgical Site</td>
<td>None of the following</td>
<td>Abdominopelvic MIS Surgery</td>
<td>Abdominopelvic Open Surgery, Infraumbilical</td>
<td>Abdominopelvic Open Surgery, Supraumbilical</td>
<td>OHNS/Upper GI/Thoracic</td>
</tr>
</tbody>
</table>

- Higher score for each factor is associated with poorer outcome, increased risk to providers, and/or increased hospital resource utilization.
<table>
<thead>
<tr>
<th>Patient</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>&lt;20 yo</td>
<td>21-40yo</td>
<td>41-50yo</td>
<td>51-65yo</td>
<td>&gt;65yo</td>
</tr>
<tr>
<td>Lung Disease (asthma, COPD, CF)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Minimal (rare inhaler)</td>
<td>&gt; Minimal</td>
</tr>
<tr>
<td>OSA</td>
<td>Not present</td>
<td>None</td>
<td>Minimal (no meds)</td>
<td>Mild (1 med)</td>
<td>Mild/Moderate (no CPAP)</td>
</tr>
<tr>
<td>CV Disease (HTN, CHF, CAD)</td>
<td>None</td>
<td>None</td>
<td>Minimal (no meds)</td>
<td>Mild (1 med)</td>
<td>Moderate (2 meds)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>None</td>
<td>None</td>
<td>Mild (no meds)</td>
<td>Moderate (PO meds only)</td>
<td>&gt; Moderate (insulin)</td>
</tr>
<tr>
<td>Immunocompromised*</td>
<td>No</td>
<td>None</td>
<td>None</td>
<td>Moderate</td>
<td>Severe</td>
</tr>
<tr>
<td>ILI Sx’s (fever, cough, sore throat, body aches, diarrhea)</td>
<td>None (Asymptomatic)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Exposure to known COVID+ Pt (14d)</td>
<td>No</td>
<td>Probably Not</td>
<td>Possibly</td>
<td>Probably</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- Higher score for each factor is associated with poorer outcome, increased risk to providers, and/or increased hospital resource utilization.
<table>
<thead>
<tr>
<th>Disease</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Operative Treatment</td>
<td>None available</td>
<td>Available, &lt;40% effective as surgery</td>
<td>Available, 40-60% effective as surgery</td>
<td>Available, 60-95% effective as surgery</td>
<td>Available, equally effective</td>
</tr>
<tr>
<td>Option EFFECTIVENESS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Operative Treatment</td>
<td>Significantly worse/</td>
<td>Somewhat worse</td>
<td>Equivalent</td>
<td>Somewhat better</td>
<td>Significantly Better</td>
</tr>
<tr>
<td>Option RESOURCE USE/</td>
<td>not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXPOSURE RISK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact of 2wk delay in</td>
<td>Significantly worse</td>
<td>Worse</td>
<td>Moderately worse</td>
<td>Slightly worse</td>
<td>Minimally worse</td>
</tr>
<tr>
<td>DISEASE outcome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SURGICAL difficulty/risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact of 6wk delay in</td>
<td>Significantly worse</td>
<td>Worse</td>
<td>Moderately worse</td>
<td>Slightly worse</td>
<td>Minimally worse</td>
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- Higher score indicates less harm if non-operative treatment is pursued and/or surgical treatment is delayed
- Limited resources are better deployed for diseases where non-operative care is less effective and where delayed surgical treatment leads to worse disease outcome and/or increases surgical risk
Utility of MeNTS Scoring Process

- Procedure + Disease + Patient = Total MeNTS Procedure Score (21-105)
- Score thresholds can be adjusted in real time based on local resources and conditions in the context of the COVID-19 pandemic
  - If score exceeds Upper Score threshold, procedure not currently justifiable
  - Lower Score threshold guides preservation of resources for emergent/urgent cases

- Favorable surgical risk
  - Favorable risk to personnel
  - Favorable resource utilization

- Worse outcomes
  - Excessive risk to personnel
  - Excessive resource utilization

MeNTS Score

Reserved OR Capacity for Emergent/Urgent Cases

OK to proceed

Procedure not justified

21

105
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CDOR Cases
3/20-3/26 (N=35)
6 cases deferred

Procedure not justified
Operationalizing MeNTS

• All procedure requests must be accompanied by a MeNTS worksheet completed by the surgeon
• Upper and Lower Score Thresholds regularly reviewed and adjusted by OR leadership
• “Borderline” cases discussed MD-to-MD
COVID-19 Cases 3/22/20 – 6/18/20 at University of Chicago

MeNTS created
MeNTS implemented
OR Case Volume Recovery

OR Volume Trend (CDOR/DCAM/COMER) 3/1/2020 - Yesterday

Pre-COVID

COVID

Recovery

OR Case Volume Recovery
COVID-19 MeNTS Surgery Scoring System

Strengths

– Dynamic flexibility based on resources and conditions
– Transparency provides reassurance to our colleagues, trainees, and public that their safety and resource preservation is being taken into consideration
– Systematically integrates complex factors not usually considered (like a “checklist”)
– Applicable across specialties and diseases
– Offloads some emotional and ethical workload, reduces risk of moral injury
– Can be used along the entire COVID-curve, including the recovery phase as “elective” procedures resume

Weaknesses

– Paucity of collective high-quality data in setting of ongoing pandemic
– Factors may require updating as data become available (obesity!)
– Disproportionate weighting of factors is inevitable
– False reassurance/objectivity (~“Pain score”)
– Does not anticipate resource availability for management of complications during hospitalization or readmission
MeNTS Implementation: Lessons Learned

- MeNTS is NOT a risk calculator for prediction of outcomes. It is an “Index” that incorporates risk of COVID-19 severity, COVID-19 infection (patient/providers), resource use, medical necessity, and time-sensitivity.
- Avoid requests to modify MeNTS scoring for individual specialties.
- Emphasize safety measures that have been implemented at your institution.
- Economic considerations are NOT part of MeNTS scoring (patients, public, non-surgical services).
- Acknowledge uncertainties (false negative tests, lateral spread, future resources).
- Avoid the word “elective.”
Contact Us

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